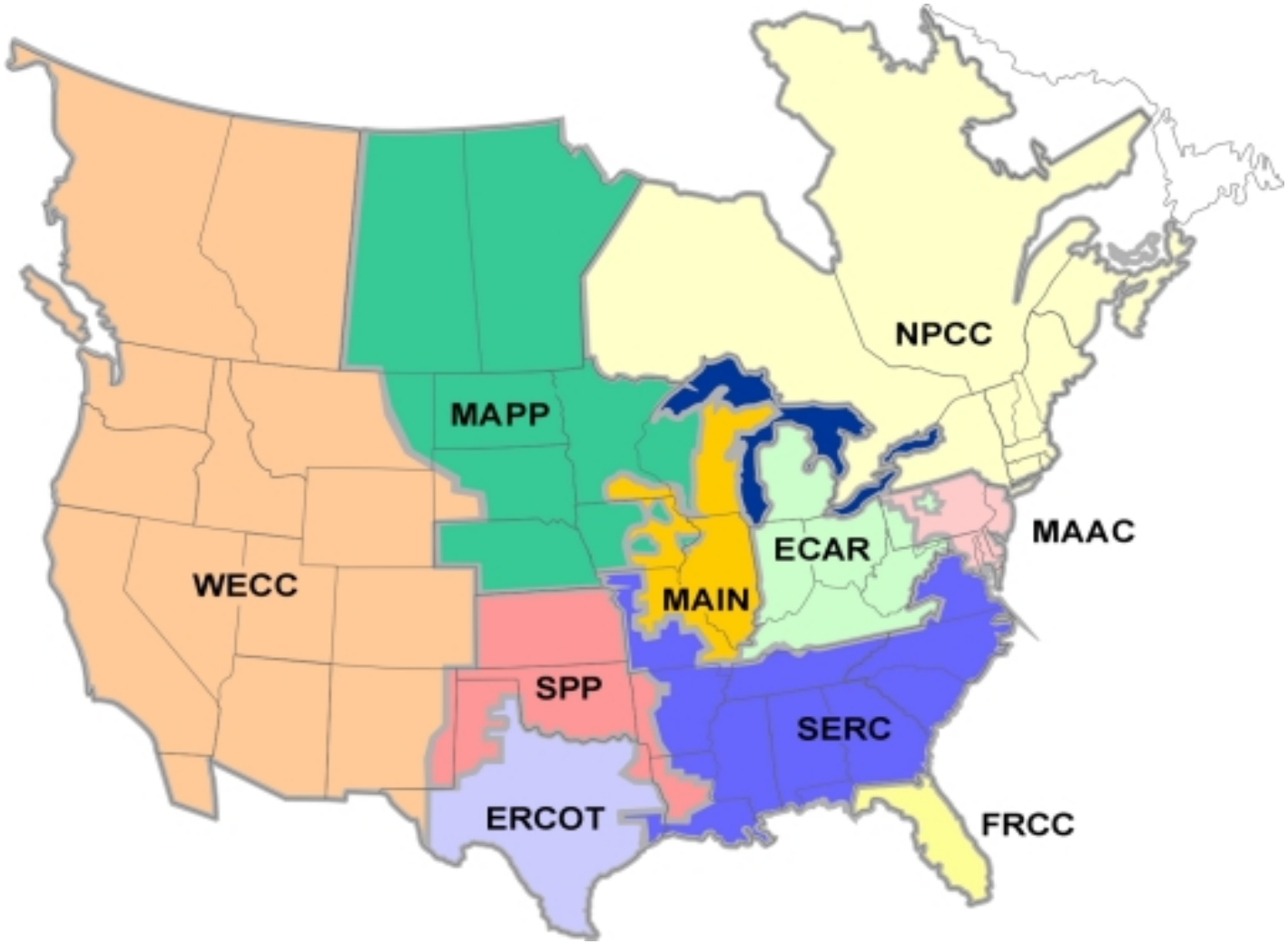
Summer 2002 Reliability Assessment

NERC 2002 Summer Reliability Assessment

- North American Electric Reliability Council
- http://www.nerc.com/~filez/rasreports.html
- Each year NERC conducts Summer, Winter and 10 year Assessments
- Summer Assessment comes out in May, looks at resources in each region
- Assessments examine regional
  - Transmission
  - Fuel Supply
  - Peak Demand
  - Demand Response Programs

NERC REGIONS



NERC Assessment Summary Overview

- With a few exceptions resources are expected to be “adequate”
- Supply
  - Significant amounts of new generation has been added
  - Drought conditions are serious but should not lead to shortages
- Demand
  - Slowdown in economy has led to relatively flat growth projection in peak demand
  - Some regions will experience a decline in demand
- Even where resources are adequate, extreme weather or unexpected equipment problems can combine to produce demands that exceed available resources

Areas of Concern

- Southwestern Connecticut and Boston area.
  - Demand growth is outpacing transmission capacity
  - Significant efforts will be needed to avoid rotating blackouts
    - Temporary peaking generation
    - Demand reduction contracts
    - Conservation efforts
- Arizona/New Mexico/Southern Nevada
  - 10.7% projected reserve margin
  - Reserve margin includes purchases by southern Nevada utilities which had not been made at the time of the report

Areas of Interest

- New York City and Long Island
  - 900 MW of generation added between last summer and this summer
  - Capacity appears adequate to meet slightly lower demand in the NY ISO.
- California
  - Reduced demand (3,300 MW)
    - Rate increase spurred conservation
    - Slow economy
  - Increased generation (5000 MW)
  - Hydro resources at normal

How Have Things Played Out So Far?

Record Heat and The Lights Stayed On!!! But..

New England – System stability concerns resulted in increased curtailments during early heat waves. “on alert” since

New York – Continued shortages during peak periods going into Manhattan and Long Islands, rest of state okay

SW Connecticut - No major “events” but continued restraint evident

Desert SW - Generation shortages in Nevada causing shortages in entire region

PJM - customers urged to conserve on several occasions

Virginia - curtailment of interruptible customers

California – Shortages in Desert SW straining in-state system due to Path 15 constraint, plant outages, limited imports

Summer 2002 *Distribution* Hot Spots

- Denver and DC have experienced spot outages due to aging distribution system components (not storm related)
- Retail customers in Penn warned that some suppliers haven't been able to meet peak demand deliveries
  - All customers were asked to conserve to pick-up the slack
  - In the future retail customers may either be curtailed or face unexpected bill surcharges

Things to Consider

- Low Prices and Economic Recovery
  - Future price spikes?
  - Shortages?
- Mother Nature
  - More record temperatures?
  - Storm related outages?
- Unplanned Mechanical Failures
- Erosion of Obligation to Serve
  - Price-Majeure
  - Integrated Resource Planning replaced with supply and demand and lag/lead scenarios.
- Reliability is not the same thing as reasonable prices

“Reliability” is misunderstood

- According to NERC, there are two parts to reliability:
  - Adequacy is sufficient generation and transmission for expected loads, plus reserves
  - Security is the ability to withstand unanticipated component outages or disturbances

- The price at which generation or transmission will be available is not considered by NERC when assessing reliability

Why the confusion?

- More transactions on the system due to deregulation
- Increased volume of transactions on the system results in “congestion”
- Congestion is typically managed by curtailing “*economic”* transactions, not real power flows
- Curtailing economic transactions increases system reliability, but drives prices up quickly!
- The resulting price spikes make the system appear “unreliable”
- High prices are the market’s way of keeping the system reliable

Conclusion

- All things considered the system is doing pretty well
- Reliability through markets may lead to more price volatility
- Priceouts are more likely than blackouts in the future
  - Demand response (preferred)
  - Price majeure (not preferred)
- Stuff happens!!!!!! Plan accordingly
- Does it seem hotter here or is it just me?